KM60 / KM10 / GR10M

Marine Speaker System

Congratulations! You have just purchased the latest in a long line of exceptional audio products from KICKER. Your KICKER Marine Components were designed and engineered by the same team which created many other international award winning KICKER products like the Solo-Baric, Comp VR and Resolution drivers. They contain a number of cutting-edge features to give you outstanding performance and dependability. Thanks for buying KICKER. Enjoy.

Features

•**Polymineral Cone** High internal damping, and excellent sunlight, pollution and moisture resistance.
•**Kapton Voice Coil Formers** For exceptional thermal power handling capability and superior sonic performance.
•**Coated Tinsel Leads** Protects the leads against the corrosive nature of the marine environment.
•**SSD (Spun Spoke Design)** Enhances the cosmetics and provides a solid anti-resonant foundation for the motor assembly.

KM60 Features:

•**KALADEX Dome Tweeter with Neodymium Magnet** For smooth high frequency response.
•**Felt Damping Plug behind dome** For enhanced transient response.
•**Ferro-Fluid Cooled Tweeter Voice Coil** For better cooling and extended life.

KM10 Features:

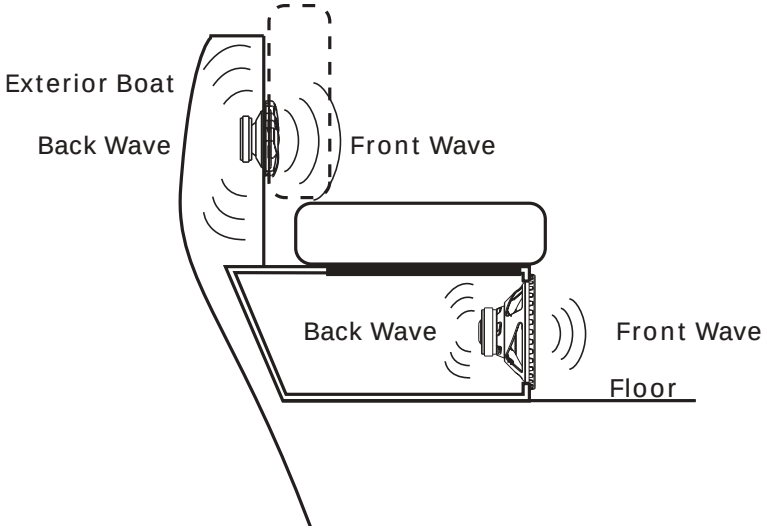
•**Gold-Plated Terminal Lugs** Protects against corrosion and provides an efficient connection between the woofer and amplifier.
•**Larger Front Gasket** Provides more surface area for a solid mount.

Specifications

MODELS	**KM60**	**KM10**
Size	6 1/2”	10”
Freq. Resp. (Hz)	43-20K	30-1000
Power Peak (Watts)	65	125
Mounting Hole (in., **cm**)	5 / **12.7**	9 3/16 / **23.3**
Mounting Depth (in., **cm**)	2 7/16 / **6.2**	4 1/2 / **11.4**
Sensitivity (dB 1W/1M)	90	89

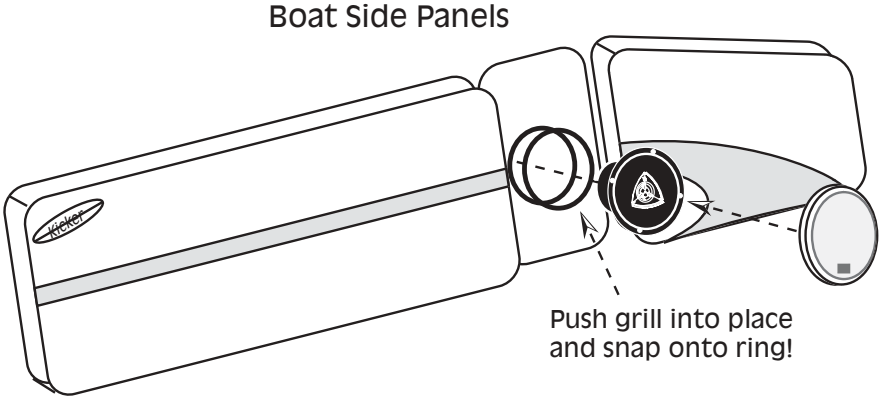
Installation Instructions

Your KICKER drivers are specifically designed for mounting in free-air applications. While the speakers do not need a sealed box for optimum performance, it is important to isolate the sound coming off the front of the driver from the sound radiating from the back of the driver to avoid cancellations. This is possible when mounting on the side panel of the boat. For subwoofers, the storage bins beneath the seats act like enclosures to keep the backwave from reaching the front side of the driver. In any mounting situation, check for interference from other mechanical systems in the boat. Make sure, if you use a panel that is part of a storage bin, the speaker will not be damaged by the contents.



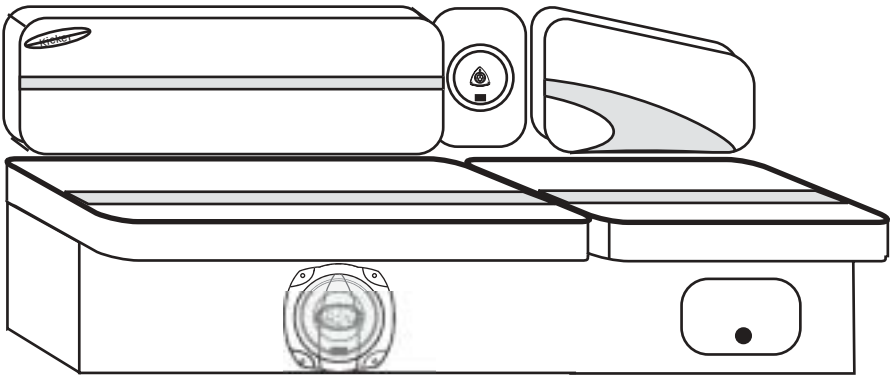
COAX MOUNTING

The first step is to find a location on the boat panel that will accept the size of speaker chosen. If there was not a speaker already there you will need to cut a hole. Check to make sure that there is enough mounting depth for the speaker before cutting any holes. *Caution: Make sure the panel you are cutting is not part of the outer skin. Be sure to install the grill mounting ring before installing the woofer*

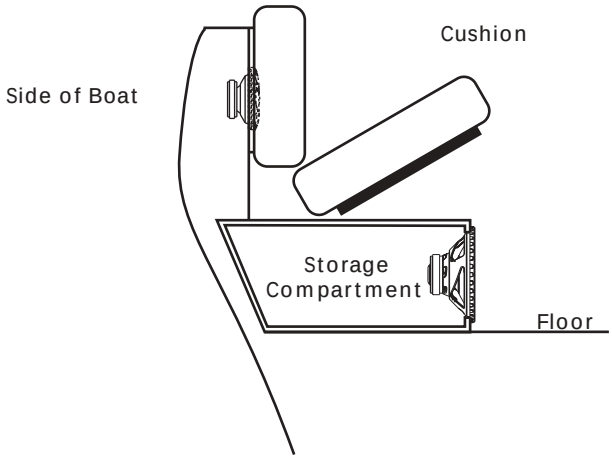


Enclosure Instructions

Mounting the KM10 subwoofer will take a little more time than the KM60 speaker. You must locate a panel that has a sufficient enough airspace behind it to allow the subwoofer to work. This will most likely be under a seat or in the foot area just below the driver's seat. If using a storage bin, make sure it seals up good and tight. If you do not find an appropriate spot you will need to construct a box.



(KM10 Shown here with optional GR10M grill)



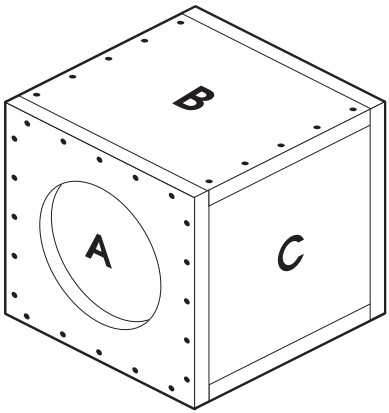
Sealed box mounting

A very smooth bass response with good low bass extension is achieved when the Kicker KM10 woofer are mounted in a correctly built sealed box with the correct airspace. Sealed (acoustic suspension) designs have been a favorite here at Kicker since the original Competition Series was introduced. We build just about all of our show vehicles with sealed boxes for the smooth response, good power handling and great sound quality they offer.

Of all the enclosures possible the sealed box is the easiest to build. The two most important rules are to make it very solid and to seal all the joints perfectly. If the panels of an enclosure can flex or vibrate you will experience a loss of bass output. You don't want to throw away any of the output capability of your Kicker KM10 woofer. Sealing all the joints in the enclosure is necessary to avoid loss of output and driver failure.

The following information will give you examples of compact sealed enclosures for the Kicker marine woofers. They have very high power handling and massive amounts of high impact bass. The given volumes are the minimum recommended and include driver displacement. As the sealed enclosure volume increases, the response will shift from high impact bass to a smoother and more extended low end.

Model	Compact Enclosure Volume	Woofer Cutout	A panel	B panel	C panel
KM10	1.25 cf	9-5/32"	13-1/2x13-1/2"	13-1/2x15"	12x15"



Vented Box Mounting

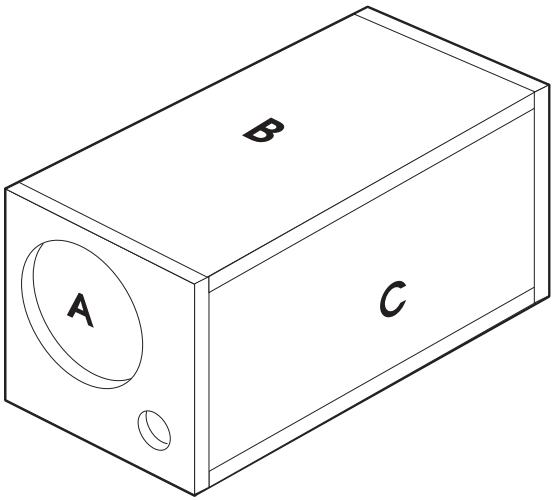
Almost as easy to build as the sealed box, the vented or ported enclosure can give you more output at certain bass frequencies. Although this design has an output advantage at some frequencies it also has a sharper rolloff characteristic which will only affect the lowest of bass frequencies. Overall a correctly designed vented enclosure will have some "free" output provided by the port itself.

One major disadvantage to the vented design is the "unloading" of the woofer at very low frequencies. At a frequency 1/2-octave below the tuning frequency of the enclosure the woofer acts like it has no box to work in and can go to full excursion. This will be harmful to the woofer's mechanical integrity. It is therefore very important to stay with the recommended designs.

Since the peak pressure inside a vented enclosure can actually be higher than that of a sealed box, the same precautions must be taken to assure that the enclosure is rigid and sealed around all the joints.

Below are specifications for a simple compact vented box.

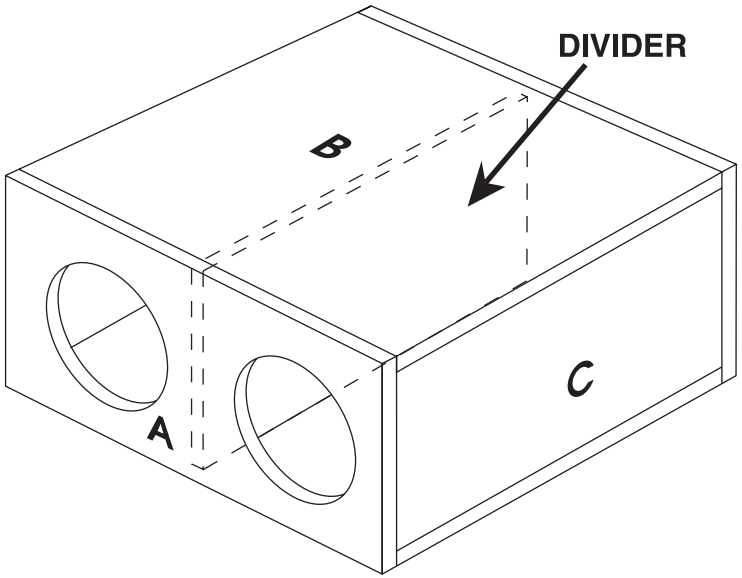
Model	Compact Enclosure Volume	Woofer Cutout	A panel	B panel	C panel	Port
KM10	1.5 cf	9-5/32"	12"x18"	18"x15"	15"x10-1/2"	4"dx11-3/4"L



Multiple Woofer Enclosures

If you are building enclosures for more than one woofer, they should always be divided to maintain the correct airspace for each woofer. There are a couple of reasons for this. First of all, not all woofers are exactly the same. If there are slight differences between the woofers in a common enclosure, at certain frequencies one woofer may think it's in a larger enclosure than intended. This can affect the power handling capability. Second, if one woofer fails, the remaining woofers will have more airspace to work in than what was designed. Again, this will severely affect the power handling capability of the woofers that are still working.

Another benefit of a divided enclosure is that the divider helps strengthen the enclosure. A large common enclosure will have much bigger panels than one that is divided. Large panels tend to flex more and can cancel some of the woofer's output.



Box Building Tips

The material of choice for building a strong box is 3/4" MDF (Medium Density Fiberboard). Cross bracing is a good idea to help reduce panel vibration. Strips of 3/4" by 2" wood work well for tying the panels together. HDF (High Density Fiberboard) is also good as is a really good grade of plywood (such as marine grade 7 or 13 ply). Regular particle board is not very good for speaker enclosures. It is flexible and will crumble when you try to screw the woofer in. ***It is a great idea to coat the box in a waterproof material, such as fiberglass resin, to insure life of the enclosure.***

A good grade of wood glue is recommended for joining two pieces of wood together along with 1-1/4 to 1 1/2" drywall screws or 1-1/2" staples. A fastener placed about every 3" will hold the box together good enough until the glue dries. After assembling the box and allowing the glue to set up, use silicone sealer to make absolutely sure the corners are perfectly sealed.

Hint: When assembling the enclosure, build the whole enclosure except for the rear baffle opposite the woofer cutout. This way you can easily reach inside to apply the silicone sealer. Once this is done, put the rear panel on and seal it by reaching through the woofer cutout.

A common source of air leaks is the connecting wire for the woofers. Terminal cups are commonly available and are recommended. They provide an airtight means for bringing the wire into the enclosure and allow for easy wiring changes. An alternative is to drill a hole slightly larger than the wire and seal carefully with silicone sealer. Do not disturb the silicone until it has set up. Moving the wire before the silicone has set up will usually cause an air leak.

If you carpet the enclosure it is important to cut the carpet around the woofer opening. It is hard to get a good seal if you have both the gasket and the carpet between the woofer and the wood.

On a sealed enclosure it is easy to test the seal of the box. Push the cone in all the way and let it go. If the seal is good, the cone should take at least five seconds to return to the center position. If the cone spring back faster that that you have a leak somewhere in the enclosure. Sometimes you can hear air escaping around the woofer or at one of the joints in the enclosure. If the box itself leaks take the woofer out and check the silicone seal all around the inside. If the air is leaking out around the woofer try adding a flexible sealer like plumber's putty or rope caulk. Don't use silicone sealers around the woofer.

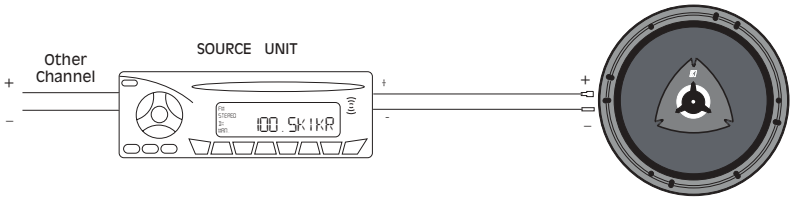
Kicker recommends allowing a professional install the subwoofers to avoid any problems that can occur during the installation process. Consult an Authorized KICKER dealer for more information.

For more information and additional box plans, see the KICKER Marine Technical Brief on kicker.com or call the Technical Services Line at (405)624-8583.

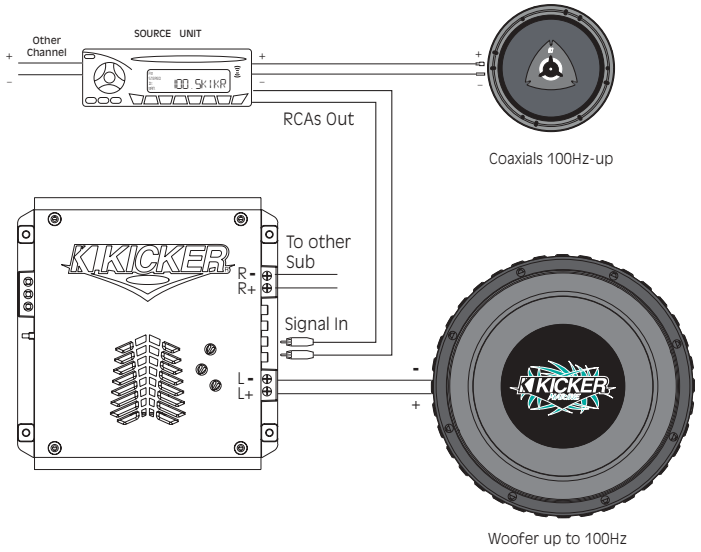
Wiring Instructions

Running wire in a boat can be simple, however, if you need to cut any holes for the wire, make sure it is not part of the outer hull. If the spot where you are drilling the hole happens to be metal, you will need to use a rubber or plastic grommet to protect the outer skin of the wire from being damaged.

Connecting the supplied wires (KM60) to your KICKER driver is very straight forward. One end of each wire is terminated with a large and small connector. The larger connector is crimped on the gray wire and connects to the positive terminal of the speaker. The smaller connector is crimped on the black wire and connects to the negative terminal of the speaker. The other end of these wires connects to your source in a similar manner. The gray wire connects to the positive output of the amplifier or source unit. The black wire connects to the negative output of the amplifier or source unit. These connections can be made with crimp-on connectors or solder and good electrical tape.

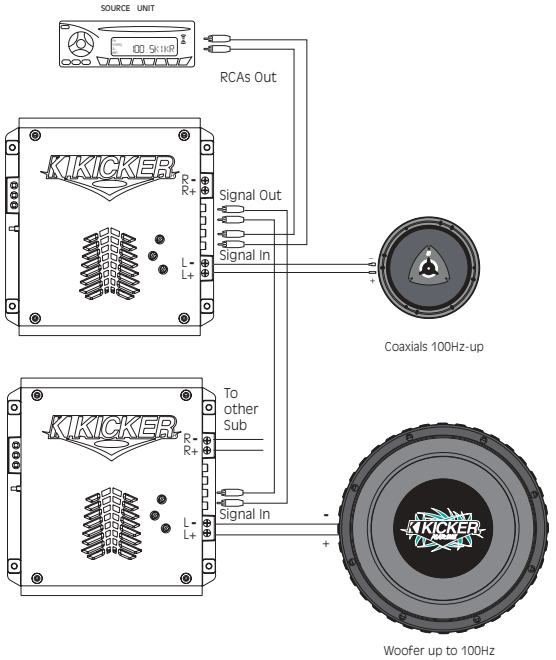


If you are installing a KM10 Marine subwoofer you will need to install an amplifier and an electronic crossover along with it. We recommend using one of our KX amplifiers because of its built-in crossover and installation flexibility. See diagram below.

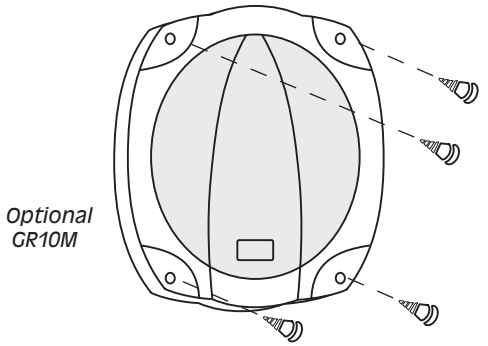


Wiring instructions cont.

The diagram below shows a typical setup with separate amplifiers driving the KM60s and KM10s. If you are not using Kicker amplifiers with a built-in crossover, you will need to use an electronic crossover in the system to insure the protection of the speakers.



If installing the woofer where it has the potential to be damaged, we offer a GR10M aluminum grill for the woofers protection. To prevent the screws from rusting, we suggest using the screws we provide.



After reading this manual, if you have more questions about the installation of your Kicker component, see the Authorized KICKER Dealer where you made your purchase. You may also contact us via the internet on www.kicker.com or call our Technical Services Line at (405)624-8583.

SPEAKER SYSTEMS LIMITED WARRANTY

Kicker warrants this product to be free from defects in material and workmanship under normal use for a period of **THREE (3) MONTHS** from date of original purchase. When purchased from an Authorized KICKER Dealer it is warranted for **ONE (1) YEAR** from date of original purchase. If the product is labeled "B Stock" and purchased from an Authorized KICKER Dealer, it is warranted for THREE (3) MONTHS from date of purchase, regardless of place of installation. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction during the warranty period, Kicker will replace or repair (at its discretion) the defective merchandise with equivalent merchandise at no charge. Warranty replacements on "B-Stock" merchandise may have cosmetic scratches and blemishes. Discontinued products may be replaced with more current equivalent products.

This warranty is valid only for the **original purchaser** and is not extended to owners of the product subsequent to the original purchaser. Any applicable implied warranties are limited in duration to a period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you.

This warranty gives you specific legal rights; however you may have other rights that vary from state to state.

WHAT TO DO IF YOU NEED WARRANTY OR SERVICE

Defective merchandise must be returned to your local Authorized Stillwater Designs (Kicker) Dealer for warranty. Assistance in locating an Authorized Dealer can be obtained by writing or calling Stillwater Designs direct. You can confirm that a dealer is authorized by asking to see a current authorized dealer window decal.

If it becomes necessary for you to return defective merchandise, call the Kicker Customer Service Department at (405)624-8510 for a Return Authorization (RMA) number. Package all defective items in the original container or in a package that will prevent shipping damage, and return to

Stillwater Designs, 5021 North Perkins Road, Stillwater, OK 74075

The RMA number must be clearly marked on the outside of the package. Return only defective components. Return of entire cabinets, system packs, pairs, etc. increases your return freight charges. Non-defective items received will be returned freight collect.

Include a dated **proof-of-purchase** stating the Customer name, Dealer name, product purchased and date of purchase. Warranty expiration on items without proof-of-purchase will be determined from type of sale and the manufacturing date code. Freight must be prepaid; items received freight collect will be refused.

Failure to follow these steps may void your warranty. Any questions can be directed to the Kicker Customer Service Department at (405)624-8510.

WHAT IS NOT COVERED?

This warranty is valid only if the product is used for the purpose for which it was designed. It does not cover:

- Damage due to improper installation
- Subsequent damage to other components
- Damage caused by exposure to moisture, excessive heat, chemical cleaners, and/or UV radiation
- Damage through negligence, misuse, accident or abuse. Repeated returns for the same damage may be considered abuse.
- Any cost or expense related to the removal or reinstallation of product
- Speakers damaged due to amplifier clipping or distortion
- Items previously repaired or modified by any unauthorized repair facility
- Return shipping on non-defective items
- Products with tampered or missing barcode labels
- Products returned without a Return Authorization (RMA) number
- Freight Damage
- The cost of shipping product to Kicker
- Service performed by anyone other than Kicker
- Speaker with any foreign caulk used for gasket material

HOW LONG WILL IT TAKE?

Kicker strives to maintain a goal of 24-hour service for all returns. Delays may be incurred if lack of replacement inventory or parts is encountered.

INTERNATIONAL WARRANTY

Contact your International Kicker dealer or distributor concerning specific procedures for your country's warranty policies.

CE

P.O. Box 459 • Stillwater, Oklahoma 74076 • U.S.A. • 405 624-8510

STILLWATER Designs®

WARNING: KICKER drivers are capable of producing sound levels that can permanently damage your hearing! Turning up a system to a level that has audible distortion is more damaging to your ears than listening to an undistorted system at the same volume level. The threshold of pain is always an indicator that the sound level is too loud and may permanently damage your hearing. Please use common sense when controlling volume!

February 2003

KICKER
LIVIN' LOUD